REMARKS/ARGUMENTS

This Amendment and Response is responsive to the non-final Office action dated November 21, 2008, setting forth a shortened three-month statutory period for reply. A petition and fee for a one-month extension of time to reply accompany this Amendment and Response.

By this Amendment, claims 1, 2 and 6 are amended, and claims 3-5 are cancelled. Accordingly, after entry of this Amendment and Response, claims 1, 2, 6 and 7 remain pending, with claims 1 being the only independent claim.

Support for the amendment to claims 1 and 2 may be found, for example, in Figures 4 and 5 of the disclosure. Claim 6 is amended to correct claim dependency.

Applicants have not publicly dedicated or abandoned any unclaimed subject matter, and have not acquiesced to any rejections made by the Office in the Office action. Applicants reserve the right to pursue prosecution of any presently or previously excluded or cancelled claim embodiments in one or more future continuation and/or divisional applications.

Request for Interview

Applicants expressly request an interview with the Examiner to discuss the pending patent application.

Claim Rejections under 35 U.S.C. § 112 – Written Description

The Examiner rejections claims 1-7 under 35 U.S.C. § 112 for failing to comply with the written description requirement. Specifically, the Examiner rejects the claim terms "targeting moiety," "medical imaging agent," and "photodynamic therapy (PDT) moiety" as "lacking structural elements that correlate to the function of the claimed composition."

Applicants have amended claim 1 to recite specific chemical structures. The claimed structures find explicit support in the pending application.

This ground for rejection is therefore moot. Applicants respectfully request that it be withdrawn.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 2 and 7 stand rejected under 35 U.S.C. § 102(b) as anticipated by PCT Publication No. WO 00/25665 (hereinafter "Dees"), which the Examiner states U.S. Pat. No. 6,493,570 stands as an equivalent.

Dees describes a method of photodynamic therapy which utilizes Rose Bengal, a Type I photodynamic therapy agent. The presently claimed compounds and methods do not include Rose Bengal.

This ground for rejection is therefore moot, and should be withdrawn.

Claim Rejections Under 35 U.S.C. § 102(b) over U.S. Patent No. 6,217,848 to Achilefu et al. (Achilefu '848)

Claims 1-5 and 7 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,217,848 issued to Achilefu et al. (hereinafter "Achilefu '848"). For at least the following reasons, Applicant respectfully disagrees with these rejections.

Achilefu '848 describes photodynamic therapy using a fluorescence contrast agent (I), a targeting moiety (T), and a therapeutic agent that can be a porphyrin (P) or other active species. However, Achilefu '848 does not teach a trifunctional agent as claimed. In particular, Achilefu '848 does not teach the presently claimed PDT moiety, as amended. As such, Achilefu '848 does not teach the amended claims.

Further, the presently claimed trifunctional agents are designed for two-photon photodynamic therapy. As evidenced by Spanger et al. SPIE, DOI: 10.1117/2.1200807.1228 (August 14, 2008) (hereinafter referred to as "Spangler I"), the presently claimed photodynamic compounds are two-photon PDT agents having a penetrating ability approaching 1 cm. As further evidenced by Spangler et al., Proceedings of the SPIE, Vol. 6139, 219-228 (2006) (hereinafter referred to as "Spangler II"), the presently claimed trifunctional agents demonstrated efficient killing of human breast cancer to at least 2 cm, which was more effective than traditional on-photon agents."

Achilefu '848 does not disclose porphyrins that can be activated by a two photon mechanism like the presently claimed trifunctional agents. Instead, Achilefu '848 discloses one-photon mechanism. Therefore, Achilefu does not teach the incorporation of a two-photon activatable porphyrin into a triad structure. For this additional reason, Achilefu '848 does not anticipate the presently claimed invention.

Claim Rejections Under 35 U.S.C. § 102(e) over U.S. Patent No. 6,761,878 to Achilefu et al. (Achilefu '878)

Claims 1-5 and 7 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent U.S. Patent No. 6,761,878 to Achilefu et al. (Achilefu '878). For at least the following reasons, Applicant respectfully disagrees with these rejections.

Achilefu '878 does not teach a trifunctional agent as claimed. In particular, Achilefu '878 does not teach the presently claimed PDT moiety, as amended. As such, Achilefu '878 does not teach the amended claims.

Further, the presently claimed trifunctional agents are designed for two-photon photodynamic therapy. As discussed above, published studies have demonstrated that the two-photon PDT compounds are more effective than traditional on-photon agents. Achilefu '878 does not disclose porphyrins that can be activated by a two photon mechanism like the presently claimed trifunctional agents. For this additional reason, Achilefu '848 does not anticipate the presently claimed invention.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-7 are rejected under 35 U.S.C. § 103(a) as unpatentable over Achilefu '878 in view of Karotki.

1. Neither of the cited references teach the claimed trifunctional agents comprising the claimed PDT moiety.

As discussed above, Achilefu '878 does not teach the presently claimed compositions.

Karotki does not compensate for the failings of Achilefu '878. Karoki does not teach the PDT moiety as claimed, as there is no disclosure of this moiety in the paper. As a point of emphysis, Karotki does not disclose the alkyne carbon-carbon bond between the triphenyl amine group and the porphyrin.

For this reason alone, the reference in combination do not render the claimed trifunctional agents or methods obvious.

2. Those of skill in the art would not have a reasonable expectation of success in making the presently claimed trifunctional agents comprising the claimed PDT moiety.

The presently claimed trifunctional agents have a high tissue penetrability, with a low power consumption requriement. As disclosed in Spangler I and Spangler II, ,

Neither Achilefu '878 nor Karotki teach the presently claimed trifunctional agents. There is no reasonable expectation of success for one of skill in the art to make the claimed trifunctional agent because the specific claimed components, specifically the PDT moiety, are

not disclosed in either Achilefu '878 or Karotki. Further, one of ordinary skill in the art would not have a reasonable expectation of success making a trifunctional agent having the advantageous characteristics described in Spangler I and Spangler II.

For this additional reason, the references in combination do not render the claimed trifnuctional agents or methods obvious.

3. There was no motivation or suggestion in the art to make the presently claimed trifunctional agents comprising the claimed PDT moiety.

While there was motivation to make a composition for two photon photodynamic therapy, there was no motivation or suggestion in the references or anywhere in the art to make the presently claimed trifunctional agent or perform the presently claimed methods. In particular, neither Achilefu '878 nor Karotki describes the specifically claimed PDT moiety. One would not have been motivated to make the specifically claimed compounds having the specifically claimed substituents.

For the foregoing reasons, this ground for rejection should be withdrawn.

CONCLUSION

The present application is in condition for allowance.

Applicants file the present response with a Petition for Extension of time for three (3) months. Accordingly, the present response is timely filed.

Should any issues remain that the Examiner believes may be dealt with in a telephone conference, he is invited to contact the undersigned at 303-629-3400.

Dated this 21 day of May, 2009.

Respectfully submitted,

/Timothy A. Worrall/
Timothy A. Worrall, Registration No. 54,552
USPTO Customer No. 20686

DORSEY & WHITNEY LLP
370 17th Street, Suite 4700
Denver, Colorado 80202-5647
Telephone: 303-629-3400
Facsimile: 303-629-3450

4813-4502-7587\1